

1. A machine for cutting rods from rod stock, the machine comprising:

- means for advancing the rod stock along a first axis;
- a closed knife mounted for reciprocating movement perpendicular to said axis between first and second positions, said knife having an opening (i) aligned with said axis and through which the advancing rod stock passes when the knife is in said first position and (ii) radially displaced from said axis when in said second position, said knife further having an edge to shear off a rod from the rod stock upon moving toward said second position; and
- an air supply having a discharge port (i) positioned upstream of the knife, and (ii) aligned with said opening and oriented to discharge generally parallel to said axis and through said opening when said knife is in said second position for ejecting the cut rod from the knife in said direction.

7. The machine of claim 1 further comprising a (a) gage surface (i) located downstream of said knife, (ii) facing towards said knife, and (iii) aligned with said axis to position the advancing rod stock in the knife, and (b) a contact surface (i) in fixed relation with said gage surface, (ii) extending in a direction away from said gage surface, and (iii) facing towards said second position with respect to said axis to engage a sheared rod that may be carried back in the knife as it returns to said first position, said gage surface and contact surface being connected for resilient movement away from and towards said axis as the knife returns to said first position to enable discharge of said sheared rod from the knife in said first position by the advancing stock.

8. The machine of claim 7 further comprising a gage pin having a free end defining said gage surface, and having a side portion defining said contact surface and tapering away from said axis upon progressing in a direction away from said knife.

13. A machine for cutting rods from rod stock, the machine comprising:

- means for advancing the rod stock along a first axis;
- a closed knife connected for reciprocating linear movement perpendicular to said axis between first and second positions, said knife having an opening (i) extending along said axis and through which the advancing rod stock passes when the knife is in said first position and radially displaced from said axis when in said second position, said knife further having an edge to shear off a rod from the rod stock upon moving toward said second position;
- an air supply having a discharge port (i) positioned upstream of the knife, and (ii) aligned with said opening and oriented to discharge generally parallel to said axis and through said opening when said knife is in said second position for ejecting the sheared rod from the knife in said direction when in said second position; and
- a gage pin located downstream of said knife and aligned with said axis to engage the downstream end of the advancing rod stock and position the stock in the knife,
- the gage pin being connected for resilient linear movement away from and towards said axis and with the knife as the knife returns to said first position to enable discharge of a sheared rod from the knife by the advancing stock with the knife in said first position.

14. The machine of claim 13 further comprising a base located downstream of the knife and a cap connected to the base for resilient movement towards and away from said axis, said gage pin passing between said base and said cap such that said resilient movement of the cap established said resilient movement of the gage pin.

15. The machine of claim 13 in which the gage pin is formed with a tapered portion facing generally towards said second position with respect to said axis for engagement with the rod as the rod approaches said first position to assist in removal of the rod from the knife.

16. The machine of claim 13 further comprising a stationary support die having an opening aligned with the opening in said knife when in said first position and through which the advancing rod stock passes upstream of the knife, and having said discharge port aligned with the opening in the knife when the knife is in said second position.